



39766-0033SavedMay04,2007.txt

# SEQUENCE LISTING

<110> Presta, Leonard G.  
Shelton, David L.  
Urfer, Roman

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<150> 09/724,524

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 <212> PRT  
 <213> Homo sapiens

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Asp	Asp	Gly	Asn	Leu	Phe	Pro	Leu	Leu	Glu	Gly	Gln	Asp	Ser	Gly	Asn
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Ser	Asn	Gly	Asn	Ala	Asn	Ile	Asn	Ile	Thr	Asp	Ile	Ser	Arg	Asn	Ile
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Thr	Ser	Ile	His	Ile	Glu	Asn	Trp	Arg	Ser	Leu	His	Thr	Leu	Asn	Ala
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Val	Asp	Met	Glu	Leu	Tyr	Thr	Gly	Leu	Gln	Lys	Leu	Thr	Ile	Lys	Asn
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Ser	Gly	Leu	Arg	Ser	Ile	Gln	Pro	Arg	Ala	Phe	Ala	Lys	Asn	Pro	His
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Leu	Arg	Tyr	Ile	Asn	Leu	Ser	Ser	Asn	Arg	Leu	Thr	Thr	Leu	Ser	Trp
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Gln	Leu	Phe	Gln	Thr	Leu	Ser	Leu	Arg	Glu	Leu	Gln	Leu	Glu	Gln	Asn
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Phe	Phe	Asn	Cys	Ser	Cys	Asp	Ile	Arg	Trp	Met	Gln	Leu	Trp	Gln	Glu
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Gln	Gly	Glu	Ala	Lys	Leu	Asn	Ser	Gln	Asn	Leu	Tyr	Cys	Ile	Asn	Ala
			180					185					190		
Asp	Gly	Ser	Gln	Leu	Pro	Leu	Phe	Arg	Met	Asn	Ile	Ser	Gln	Cys	Asp
		195					200					205			
Leu	Pro	Glu	Ile	Ser	Val	Ser	His	Val	Asn	Leu	Thr	Val	Arg	Glu	Gly
	210					215					220				
Asp	Asn	Ala	Val	Ile	Thr	Cys	Asn	Gly	Ser	Gly	Ser	Pro	Leu	Pro	Asp
225					230					235					240
Val	Asp	Trp	Ile	Val	Thr	Gly	Leu	Gln	Ser	Ile	Asn	Thr	His	Gln	Thr
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Ile	Glu	Phe	Val	Val	Arg	Gly	Asn	Pro	Pro	Pro	Thr	Leu	His	Trp	Leu
				325					330					335	
His	Asn	Gly	Gln	Pro	Leu	Arg	Glu	Ser	Lys	Ile	Ile	His	Val	Glu	Tyr
			340					345					350		
Tyr	Gln	Glu	Gly	Glu	Ile	Ser	Glu	Gly	Cys	Leu	Leu	Phe	Asn	Lys	Pro
		355					360					365			
Thr	His	Tyr	Asn	Asn	Gly	Asn	Tyr	Thr	Leu	Ile	Ala	Lys	Asn	Pro	Leu
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Pro	Pro	Ile	Thr	Val	Thr	His	Lys	Pro	Glu	Glu	Asp	Thr	Phe	Gly	Val
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Ser	Ile	Ala	Val	Gly	Leu	Ala	Ala	Phe	Ala	Cys	Val	Leu	Leu	Val	Val
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Leu	Phe	Val	Met	Ile	Asn	Lys	Tyr	Gly	Arg	Arg	Ser	Lys	Phe	Gly	Met
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Lys	Gly	Pro	Val	Ala	Val	Ile	Ser	Gly	Glu	Glu	Asp	Ser	Ala	Ser	Pro
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Gly	Pro	Asp	Thr	Val	Val	Ile	Gly	Met	Thr	Arg	Ile	Pro	Val	Ile	Glu
			500					505					510		
Asn	Pro	Gln	Tyr	Phe	Arg	Gln	Gly	His	Asn	Cys	His	Lys	Pro	Asp	Thr
		515					520					525			
Tyr	Val	Gln	His	Ile	Lys	Arg	Arg	Asp	Ile	Val	Leu	Lys	Arg	Glu	Leu

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 545 550 555 560  
 Ser Pro Thr Lys Asp Lys Met Leu Val Ala Val Lys Ala Leu Lys Asp  
 565 570 575  
 Pro Thr Leu Ala Ala Arg Lys Asp Phe Gln Arg Glu Ala Glu Leu Leu  
 580 585 590  
 Thr Asn Leu Gln His Glu His Ile Val Lys Phe Tyr Gly Val Cys Gly  
 595 600 605  
 Asp Gly Asp Pro Leu Ile Met Val Phe Glu Tyr Met Lys His Gly Asp  
 610 615 620  
 Leu Asn Lys Phe Leu Arg Ala His Gly Pro Asp Ala Met Ile Leu Val  
 625 630 635 640  
 Asp Gly Gln Pro Arg Gln Ala Lys Gly Glu Leu Gly Leu Ser Gln Met  
 645 650 655  
 Leu His Ile Ala Ser Gln Ile Ala Ser Gly Met Val Tyr Leu Ala Ser  
 660 665 670  
 Gln His Phe Val His Arg Asp Leu Ala Thr Arg Asn Cys Leu Val Gly  
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 Ala Asn Leu Leu Val Lys Ile Gly Asp Phe Gly Met Ser Arg Asp Val  
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 Tyr Ser Thr Asp Tyr Tyr Arg Leu Phe Asn Pro Ser Gly Asn Asp Phe  
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 Cys Ile Trp Cys Glu Val Gly Gly His Thr Met Leu Pro Ile Arg Trp  
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 Met Pro Pro Glu Ser Ile Met Tyr Arg Lys Phe Thr Thr Glu Ser Asp  
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 Gln Pro Trp Phe Gln Leu Ser Asn Thr Glu Val Ile Glu Cys Ile Thr  
 770 775 780  
 Gln Gly Arg Val Leu Glu Arg Pro Arg Val Cys Pro Lys Glu Val Tyr  
 785 790 795 800  
 Asp Val Met Leu Gly Cys Trp Gln Arg Glu Pro Gln Gln Arg Leu Asn  
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 Ile Tyr Leu Asp Ile Leu Gly  
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&lt;210&gt; 7

&lt;211&gt; 1858

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 7

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&lt;210&gt; 8

&lt;211&gt; 612

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 8

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Pro Ala Asn Cys Val Cys Ser Lys Thr Glu Ile Asn Cys Arg Arg Pro
 35          40          45
Asp Asp Gly Asn Leu Phe Pro Leu Leu Glu Gly Gln Asp Ser Gly Asn
 50          55          60
Ser Asn Gly Asn Ala Asn Ile Asn Ile Thr Asp Ile Ser Arg Asn Ile
 65          70          75          80
Thr Ser Ile His Ile Glu Asn Trp Arg Ser Leu His Thr Leu Asn Ala
 85          90          95
Val Asp Met Glu Leu Tyr Thr Gly Leu Gln Lys Leu Thr Ile Lys Asn
100          105          110
Ser Gly Leu Arg Ser Ile Gln Pro Arg Ala Phe Ala Lys Asn Pro His
115          120          125
Leu Arg Tyr Ile Asn Leu Ser Ser Asn Arg Leu Thr Thr Leu Ser Trp
130          135          140
Gln Leu Phe Gln Thr Leu Ser Leu Arg Glu Leu Gln Leu Glu Gln Asn
145          150          155          160
Phe Phe Asn Cys Ser Cys Asp Ile Arg Trp Met Gln Leu Trp Gln Glu
165          170          175
Gln Gly Glu Ala Lys Leu Asn Ser Gln Asn Leu Tyr Cys Ile Asn Ala
180          185          190
Asp Gly Ser Gln Leu Pro Leu Phe Arg Met Asn Ile Ser Gln Cys Asp
195          200          205
Leu Pro Glu Ile Ser Val Ser His Val Asn Leu Thr Val Arg Glu Gly
210          215          220
Asp Asn Ala Val Ile Thr Cys Asn Gly Ser Gly Ser Pro Leu Pro Asp
225          230          235          240
Val Asp Trp Ile Val Thr Gly Leu Gln Ser Ile Asn Thr His Gln Thr
245          250          255
Asn Leu Asn Trp Thr Asn Val His Ala Ile Asn Leu Thr Leu Val Asn
260          265          270
Val Thr Ser Glu Asp Asn Gly Phe Thr Leu Thr Cys Ile Ala Glu Asn
275          280          285
Val Val Gly Met Ser Asn Ala Ser Val Ala Leu Thr Val Tyr Tyr Pro
290          295          300
Pro Arg Val Val Ser Leu Glu Glu Pro Glu Leu Arg Leu Glu His Cys
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Tyr Gln Glu Gly Glu Ile Ser Glu Gly Cys Leu Leu Phe Asn Lys Pro
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Thr His Tyr Asn Asn Gly Asn Tyr Thr Leu Ile Ala Lys Asn Pro Leu
          370          375          380
Gly Thr Ala Asn Gln Thr Ile Asn Gly His Phe Leu Lys Glu Pro Phe
385          390          395          400
Pro Glu Ser Thr Asp Asn Phe Ile Leu Phe Asp Glu Val Ser Pro Thr
          405          410          415
Pro Pro Ile Thr Val Thr His Lys Pro Glu Glu Asp Thr Phe Gly Val
          420          425          430
Ser Ile Ala Val Gly Leu Ala Ala Phe Ala Cys Val Leu Leu Val Val
          435          440          445
Leu Phe Val Met Ile Asn Lys Tyr Gly Arg Arg Ser Lys Phe Gly Met
          450          455          460
Lys Gly Pro Val Ala Val Ile Ser Gly Glu Glu Asp Ser Ala Ser Pro
465          470          475          480
Leu His His Ile Asn His Gly Ile Thr Thr Pro Ser Ser Leu Asp Ala
          485          490          495
Gly Pro Asp Thr Val Val Ile Gly Met Thr Arg Ile Pro Val Ile Glu
          500          505          510
Asn Pro Gln Tyr Phe Arg Gln Gly His Asn Cys His Lys Pro Asp Thr
          515          520          525
Trp Val Phe Ser Asn Ile Asp Asn His Gly Ile Leu Asn Leu Lys Asp
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Asn Arg Asp His Leu Val Pro Ser Thr His Tyr Ile Tyr Glu Glu Pro
545          550          555          560
Glu Val Gln Ser Gly Glu Val Ser Tyr Pro Arg Ser His Gly Phe Arg
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Glu Ile Met Leu Asn Pro Ile Ser Leu Pro Gly His Ser Lys Pro Leu
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Arg His Gly Phe
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Ala Ala Pro Cys Pro Asp Ala Cys Cys Pro His Gly Ser Gly Leu
          35          40          45
Arg Cys Thr Arg Asp Gly Ala Leu Asp Ser Leu His His Leu Pro Gly
          50          55          60
Ala Glu Asn Leu Thr Glu Leu Tyr Ile Glu Asn Gln Gln His Leu Gln
65          70          75          80
His Leu Glu Leu Arg Asp Leu Arg Gly Leu Gly Glu Leu Arg Asn Leu
          85          90          95
Thr Ile Val Lys Ser Gly Leu Arg Phe Val Ala Pro Asp Ala Phe His
          100          105          110
Phe Thr Pro Arg Leu Ser Arg Leu Asn Leu Ser Phe Asn Ala Leu Glu
          115          120          125
Ser Leu Ser Trp Lys Thr Val Gln Gly Leu Ser Leu Gln Glu Leu Val
          130          135          140

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Cys	His	Gly	Gln 180	Gly	Pro	Leu	Ala	His 185	Met	Pro	Asn	Ala	Ser 190	Cys	Gly
Val	Pro	Thr 195	Leu	Lys	Val	Gln	Val 200	Pro	Asn	Ala	Ser	Val 205	Asp	Val	Gly
Asp	Asp 210	Val	Leu	Leu	Arg	Cys 215	Gln	Val	Glu	Gly	Arg 220	Gly	Leu	Glu	Gln
Ala 225	Gly	Trp	Ile	Leu	Thr 230	Glu	Leu	Glu	Gln	Ser 235	Ala	Thr	Val	Met	Lys 240
Ser	Gly	Gly	Leu	Pro 245	Ser	Leu	Gly	Leu	Thr 250	Leu	Ala	Asn	Val	Thr 255	Ser
Asp	Leu	Asn	Arg 260	Lys	Asn	Leu	Thr	Cys 265	Trp	Ala	Glu	Asn	Asp 270	Val	Gly
Arg	Ala	Glu 275	Val	Ser	Val	Gln	Val 280	Asn	Val	Ser	Phe	Pro	Ala 285	Ser	Val
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Val	Leu	Asn	Glu	Thr 325	Ser	Phe	Ile	Phe	Thr 330	Glu	Phe	Leu	Glu	Pro 335	Ala
Ala	Asn	Glu	Thr 340	Val	Arg	His	Gly	Cys 345	Leu	Arg	Leu	Asn	Gln 350	Pro	Thr
His	Val	Asn 355	Asn	Gly	Asn	Tyr	Thr 360	Leu	Leu	Ala	Ala	Asn 365	Pro	Phe	Gly
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Phe 385	Asn	Pro	Glu	Asp	Pro 390	Ile	Pro	Asp	Thr	Asn 395	Ser	Thr	Ser	Gly	Asp 400
Pro	Val	Glu	Lys	Lys 405	Asp	Glu	Thr	Pro	Phe 410	Gly	Val	Ser	Val	Ala 415	Val
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Leu	Gln	His	Gln	His 565	Ile	Val	Arg	Phe	Phe 570	Gly	Val	Cys	Thr	Glu 575	Gly
Arg	Pro	Leu	Leu 580	Met	Val	Phe	Glu	Tyr 585	Met	Arg	His	Gly	Asp 590	Leu	Asn
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Glu	Asp 610	Val	Ala	Pro	Gly	Pro 615	Leu	Gly	Leu	Gly	Gln 620	Leu	Leu	Ala	Val
Ala 625	Ser	Gln	Val	Ala	Ala 630	Gly	Met	Val	Tyr	Leu 635	Ala	Gly	Leu	His	Phe 640
Val	His	Arg	Asp	Leu	Ala	Thr	Arg	Asn	Cys	Leu	Val	Gly	Gln	Gly	Leu

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 val val Lys ile Gly Asp Phe Gly Met Ser Arg Asp ile Tyr Ser Thr  
 660 665 670  
 Asp Tyr Tyr Arg val Gly Gly Arg Thr Met Leu Pro ile Arg Trp Met  
 675 680 685  
 Pro Pro Glu Ser ile Leu Tyr Arg Lys Phe Thr Thr Glu Ser Asp val  
 690 695 700  
 Trp Ser Phe Gly val val Leu Trp Glu ile Phe Thr Tyr Gly Lys Gln  
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 Pro Trp Tyr Gln Leu Ser Asn Thr Glu Ala ile Asp Cys ile Thr Gln  
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<213> Homo sapiens

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Trp Val Phe Ser Asn Ile Asp Asn His Gly Ile Leu Asn Leu Lys Asp  
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 Asn Arg Asp His Leu Val Pro Ser Thr His Tyr Ile Tyr Glu Glu Pro  
 20 25 30  
 Glu Val Gln Ser Gly Glu Val Ser Tyr Pro Arg Ser His Gly Phe Arg  
 35 40 45  
 Glu Ile Met Leu Asn Pro Ile Ser Leu Pro Gly His Ser Lys Pro Leu  
 50 55 60  
 Asn His Gly Ile Tyr Val Glu Asp Val Asn Val Tyr Phe Ser Lys Gly  
 65 70 75 80  
 Arg His Gly Phe

&lt;210&gt; 42

&lt;211&gt; 247

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 42

Met Thr Ile Leu Phe Leu Thr Met Val Ile Ser Tyr Phe Gly Cys Met  
 1 5 10 15  
 Lys Ala Ala Pro Met Lys Glu Ala Asn Ile Arg Gly Gln Gly Gly Leu  
 20 25 30  
 Ala Tyr Pro Gly Val Arg Thr His Gly Thr Leu Glu Ser Val Asn Gly  
 35 40 45  
 Pro Lys Ala Gly Ser Arg Gly Leu Thr Ser Leu Ala Asp Thr Phe Glu  
 50 55 60  
 His Met Ile Glu Glu Leu Leu Asp Glu Asp Gln Lys Val Arg Pro Asn  
 65 70 75 80  
 Glu Glu Asn Asn Lys Asp Ala Asp Leu Tyr Thr Ser Arg Val Met Leu  
 85 90 95  
 Ser Ser Gln Val Pro Leu Glu Pro Pro Leu Leu Phe Leu Leu Glu Glu  
 100 105 110  
 Tyr Lys Asn Tyr Leu Asp Ala Ala Asn Met Ser Met Arg Val Arg Arg  
 115 120 125  
 His Ser Asp Pro Ala Arg Arg Gly Glu Leu Ser Val Cys Asp Ser Ile  
 130 135 140  
 Ser Glu Trp Val Thr Ala Ala Asp Lys Lys Thr Ala Val Asp Met Ser  
 145 150 155 160  
 Gly Gly Thr Val Thr Val Leu Glu Lys Val Pro Val Ser Lys Gly Gln  
 165 170 175  
 Leu Lys Gln Tyr Phe Tyr Glu Thr Lys Cys Asn Pro Met Gly Tyr Thr  
 180 185 190  
 Lys Glu Gly Cys Arg Gly Ile Asp Lys Arg His Trp Asn Ser Gln Cys  
 195 200 205  
 Arg Thr Thr Gln Ser Tyr Val Arg Ala Leu Thr Met Asp Ser Lys Lys  
 210 215 220  
 Arg Ile Gly Trp Arg Phe Ile Arg Ile Asp Thr Ser Cys Val Cys Thr  
 225 230 235 240  
 Leu Thr Ile Lys Arg Gly Arg  
 245

&lt;210&gt; 43

&lt;211&gt; 258

&lt;212&gt; PRT

&lt;213&gt; Rattus norvegicus

&lt;400&gt; 43

Met Ser Ile Leu Phe Tyr Val Ile Phe Leu Ala Tyr Leu Arg Gly Ile  
 Page 18

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Gln Gly Asn Asn Met Asp Gln Arg Ser Leu Pro Glu Asp Ser Leu Asn
20
Ser Leu Ile Ile Lys Leu Ile Gln Ala Asp Ile Leu Lys Asn Lys Leu
35
Ser Lys Gln Met Val Asp Val Lys Glu Asn Tyr Gln Ser Thr Leu Pro
50
Lys Ala Glu Ala Pro Arg Glu Pro Glu Gln Gly Glu Ala Thr Arg Ser
65
Glu Phe Gln Pro Met Ile Ala Thr Asp Thr Glu Leu Leu Arg Gln Gln
85
Arg Arg Tyr Asn Ser Pro Arg Val Leu Leu Ser Asp Ser Thr Pro Leu
100
Glu Pro Pro Pro Leu Tyr Leu Met Glu Asp Tyr Val Gly Asn Pro Val
115
Val Thr Asn Arg Thr Ser Pro Arg Arg Lys Arg Tyr Ala Glu His Lys
130
Ser His Arg Gly Glu Tyr Ser Val Cys Asp Ser Glu Ser Leu Trp Val
145
Thr Asp Lys Ser Ser Ala Ile Asp Ile Arg Gly His Gln Val Thr Val
165
Leu Gly Glu Ile Lys Thr Gly Asn Ser Pro Val Lys Gln Tyr Phe Tyr
180
Glu Thr Arg Cys Lys Glu Ala Arg Pro Val Lys Asn Gly Cys Arg Gly
195
Ile Asp Asp Lys His Trp Asn Ser Gln Cys Lys Thr Ser Gln Thr Tyr
210
Val Arg Ala Leu Thr Ser Glu Asn Asn Lys Leu Val Gly Trp Arg Trp
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Ile Arg Ile Asp Thr Ser Cys Val Cys Ala Leu Ser Arg Lys Ile Gly
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Arg Thr
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Pro Phe Leu Ala Pro Glu Trp Asp Leu Leu Ser Pro Arg Val Val Leu
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Ser Arg Gly Ala Pro Ala Gly Pro Pro Leu Leu Phe Leu Leu Glu Ala
50
Gly Ala Phe Arg Glu Ser Ala Gly Ala Pro Ala Asn Arg Ser Arg Arg
65
Gly Val Ser Glu Thr Ala Pro Ala Ser Arg Arg Gly Glu Leu Ala Val
85
Cys Asp Ala Val Ser Gly Trp Val Thr Asp Arg Arg Thr Ala Val Asp
100
Leu Arg Gly Arg Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly
115
Gly Ser Pro Leu Arg Gln Tyr Phe Phe Glu Thr Arg Cys Lys Ala Asp
130
Asn Ala Glu Glu Gly Gly Pro Gly Ala Gly Gly Gly Gly Cys Arg Gly
145
Val Asp Arg Arg His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr
165
170
175

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Val Arg Ala Leu Thr Ala Asp Ala Gln Gly Arg Val Gly Trp Arg Trp  
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 Ile Arg Ile Asp Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly  
 195 200 205  
 Arg Ala  
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 Pro Phe Leu Ala Pro Glu Trp Asp Leu Leu Ser Pro Arg Val Val Leu  
 35 40 45  
 Ser Arg Gly Ala Pro Ala Gly Pro Pro Leu Leu Phe Leu Leu Glu Ala  
 50 55 60  
 Gly Ala Phe Arg Glu Ser Ala Gly Ala Pro Ala Asn Arg Ser Arg Arg  
 65 70 75 80  
 Gly Val Ser Glu Thr Ala Pro Ala Ser Arg Arg Gly Glu Leu Ala Val  
 85 90 95  
 Cys Asp Ala Val Ser Gly Trp Val Thr Asp Arg Arg Thr Ala Val Asp  
 100 105 110  
 Leu Arg Gly Arg Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly  
 115 120 125  
 Gly Ser Pro Leu Arg Gln Tyr Phe Phe Glu Thr Arg Cys Lys Ala Asp  
 130 135 140  
 Asn Ala Glu Glu Gly Gly Pro Gly Ala Gly Gly Gly Cys Arg Gly  
 145 150 155 160  
 Val Asp Arg Arg His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr  
 165 170 175  
 Val Arg Ala Leu Thr Ala Asp Ala Gln Gly Arg Val Gly Trp Arg Trp  
 180 185 190  
 Ile Arg Ile Asp Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly  
 195 200 205  
 Arg Ala  
 210